

USSR

UDC 681.332.65

~~ABOLIN~~, Yu.Zh., BEREZKIN, B.S.. et al.

"Majority-Redundant Pulse Device"

USSR Author's Certificate 271895, Filed 24/03/69. Published 9/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B253P).

Translation: Majority-redundant pulse devices containing redundant devices with feedback circuits, input and output assemblies, and memory elements are well known. However, in this type of redundant device a 1 recorded before the collection signal over the feedback loop is stored until the next operating cycle. It is read out by the first pulse from the redundant device and produces a false output pulse. The device suggested differs in that the output of each memory element is connected through input assemblies to the reading inputs of the two other memory elements. This increases reliability. 1 fig.

1/1

USSR

ABOLTIN', E. E., Izvestiya Akademii Nauk Latvyskoy SSR -- Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 2, 1971, pp 17-24

of different thickness and also infinite semiconducting space is nonlinear; however, the relation is close to linear for insignificant variations of the specific resistance (+10%). By selecting a defined field frequency or a defined thickness of the semiconducting layer it is possible to create conditions under which the dependence of the electromagnetic field parameters on the variation of the specific resistance of the semiconducting layers is close to linear, and it is expedient to perform studies of the variation of the specific resistance of the semiconducting layers in free space in an electromagnetic field up to a layer thickness not exceeding a quarter wavelength in the medium of the layer and for semiconductors on a metal substrate not exceeding the half wavelength in the medium of the layer.

UDC 538.566

USSR

ABOLTIN', E. E.

"Reflection of Superhigh-Frequency Electromagnetic Waves from a Semiconducting Layer"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR -- Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 2, 1971, pp 17-24

Abstract: A study was made of the dependence of the electromagnetic field parameters (modulus, phase, and active and imaginary components of the coefficient of reflection) on the specific resistance of semiconducting (germanium) layers of different thickness in order to discover the conditions of existence of linear or nearly linear relations among the indicated parameters. The general expressions for the coefficient of reflection of two-layer semiconductors, a semiconducting layer in free space, a semiconducting layer on a metal substrate, and a homogeneous semiconducting semiinfinite medium in an electromagnetic field were considered.

It was found that in the general case, the dependence of the electromagnetic field parameters on the specific resistance of the semiconducting layers

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USSR

ABOLTIN', E. E., Izvestiya Akademii Nauk Latvyskoy SSR, Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 3, 1971, pp 63-69

electromagnetic field is insignificant at frequencies less than $4 \cdot 10^{10}$ Hz.
4. The influence of the dielectric film on the parameters of the electromagnetic field can be significantly diminished by decreasing the frequency.
5. The author finds that by changing the frequency, he can select the conditions for the greatest influence of the specific resistance of the semiconductor plate under a dielectric film on the parameters of the electromagnetic field for the purpose of investigating the properties of the semiconductors without removing the dielectric film. The article contains 4 figures and 3 bibliographic entries.

UDC 538.566

USSR

ABOLTIN', E. E., Physico-Power Institute of the Latvian SSR Academy of Sciences

"Reflection of UHF Electromagnetic Waves From a Semiconductor Layer With a Dielectric Film"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, Seriya Fizicheskikh i Tekhnicheskikh Nauk, No 3, 1971, pp 63-69

Abstract: The author gives the analytical and graphic parameters of the electromagnetic field as a function of the electrophysical properties of a semiconductor layer with a dielectric film. On this basis he makes conclusions as to the possibility of controlling the UHF properties of a semiconductor plate under a dielectric film. Through equations and figures the author illustrates his findings, which can be summarized in the following manner: 1. A dielectric film may change the parameters of the electromagnetic field (coefficient of reflection) to a significant degree. 2. In the determined limits of specific resistances of the semiconductor plates the dependence of the parameters of the electromagnetic field on the thickness of the dielectric film may be ambiguous. 3. When the thickness of the dielectric film is less than $1/\mu$, its influence on the parameters of the

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UDC: 538.566

USSR

ABOLTIN', E. E.

"Semiconductor Layer in a UHF Electromagnetic Field"

Riga, Izvestiya Akademii Nauk Latvyskoy SSR, No 2, 1972, pp 39-43

Abstract: Asserting that a more complete idea of the characteristics of a semiconductor layer can be obtained by investigating the parameters of both the reflected and transmitted waves of a UHF signal incident on the layer as well as the parameters of the layer itself, the author sets up a model of this arrangement for carrying out his analysis. The wave is assumed to have a plane front normally incident on the semiconductor layer surface, with free space on either side of the layer. Expressions are obtained from this model for the parameters of the wave transmitted and reflected by the layer, and curves for the reflection and transmission coefficients, computed from these expressions on the "Nairi" computer, are plotted as functions of the layer characteristics. The thickness of the layer considered in these computations varied from zero to 0.2 of the UHF wave length. Curves are also plotted for the transmission and reflection coefficients as functions of the layer resistivity.

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SO JPRS 59279
14 June 73

VARIATION OF THE ELECTROCHEMICAL PARAMETERS OF EPITAXIAL FILMS OF OXIDES AS
A RESULT OF GAS ETCHING
Article by L. I. ABOLTYN, L. A. LAKSHMINARAYAN, L. A. FELDMAN, N. V. KULIK, and
S. V. KOSTIN, Journal of Electrochemical Technology, Vol. 15, No. 1, 1972, pp. 1-15.
English translation, Part 2, 1972, pp. 1-15.

We have studied the variation of the electrochemical parameters of sub-
strates and epitaxial films of ruthenium as a result of etching with osmium
hydrogen chloride.

The epitaxial film of ruthenium were obtained by means of the gas trans-
port reactions in the iodine process. The gas etching was carried out in a
horizontal quartz reactor with induction heating. The apparatus and the pro-
cedure for carrying out the process are described in references [1,2]. The
studies were made in the temperature range of 430-920° C with an application
of pure hydrogen as the gas carrier. The HCl concentration in the by flow was
5-18 percent. The duration of the process was 3-10 minutes. Before the pro-
cess, the specimens underwent a complete mechanical and chemical treatment
cycle.

The results with respect to studying the effect of the gas etching in
all cases compared with the results of studying the effect of the treatment in
a hydrogen flow under conditions identical to the gas etching conditions.

The effect of the gas media on the electrochemical properties was de-
termined by measuring the mean specific resistance, the type of conductivity,
the lifetime of the minority carriers, and a study of the surface morphology
under a microscope.

The variation of the electrical parameters of the specimens was control-
led by means of super high frequency methods. In order to excite the lifetime
of the minority carriers the specimens were irradiated by a super high fre-
quency electromagnetic field. The excess carriers were introduced by direct
current pulses or noises of the microwave field. The lifetime of the minority
carrier was determined by the pulse decay time. The separate measurement of
the total and the surface lifetimes offer the possibility of studying the vari-
ation of the lifetime of the minority carriers both on the surface and in the
volume.

ABOLTYN, Ye. E.

USSR

UDC [537.226+537.311.33]:[537+535]

ABOLIN'SH, YA. YA., and STROD, V. V.

"Pyroelectric Activity of Sodium Nitrite Single Crystals"

Elektron. tekhnika. Nauch.-tekhn. sb. Materialy (Electronic Engineering: Collection of Scientific and Technical Works on Materials), 1971, vyp 2, pp 52-54 (from RZh-Fizika, No 10, 10 Oct 71, Abstract No 10YE618 from summary)

Translation: The authors investigated the pyroelectric activity of sodium nitrite single crystals by the Chaynoves method. The experimental temperature dependence of pyroelectric current amplitude obtained is compared with data on the temperature dependence of spontaneous polarization and heat capacity.

USSR

UDC: 621.376.239(088.8)

ABLYAZOV, V. S., Special Design Office of the Institute of Radio Engineering and Electronics of the Academy of Sciences of the USSR

"A Synchronous Low-Frequency Detector"

USSR Author's Certificate No 265969, filed 30 Aug 68, published 1 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D58 P)

Translation: This Author's Certificate introduces a synchronous low-frequency detector which contains two parallel-connected antiphase controllable transistor switches in a common-emitter circuit. To ensure normal operation of the detector in the case of high noise voltages, a capacitor is connected in series in the collector circuit of the second transistor switch.

USSR

UDC 621.371:538.569.4

ABLYAZOV, V. S., BASHARINOV, A. Ye., GORELIK, A. G., GORDON, S. I.,
~~KALASHNIKOV~~, V. V., KUTUZA, B. G., MITNIK, L. E., PENYAZ', L. A.,
PROLOV, A. V., and PROLOV, Yu. A.

"Absorption and Radiation of the Atmosphere in the 0.5-10 cm Range"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
(Tenth All-Union Conference on the Propagation of Radio Waves;
Report Theses--collection of works) "Nauka," 1972, pp 3-7 (from
RZh--Radiotekhnika, No 10, 1972, Abstract No 10A309)

Translation: The method and the results of measuring the absorption and radiation of the atmosphere for waves of 0.5-10 cm and, in particular, in the absorption bands of oxygen and water vapor, are given. The measurements were made for the purpose of investigating the propagation of uhf waves under various meteorological conditions, which were recorded simultaneously with the radio measurements. Curves are given of the attenuation and radio brightness temperature for rain clouds. Two illustrations, bibliography of five. H. S.

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2/2 034

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEAD TELLURIDE SINGLE CRYSTALS WERE OBTAINED BY THE BRIDGEMAN METHOD. FIRST LEAD TELLURIDE WAS SYNTHESIZED BY ALLOYING THE RESPECTIVE COMPONENTS. THE DEGREE OF PURITY OF THE STARTING MATERIAL HAD NO EFFECT ON THE SINGLE CRYSTALS. PRIOR TO SYNTHESIS, THE AMPOULES WERE GRAPHITIZED TO PREVENT LEACHING OUT OF OXYGEN AND WATER. THE SYNTHESIS WAS CARRIED OUT AT 1000-1040DEGREESC FOR 15-20 MIN, FOLLOWED BY COOLING OF THE AMPOULE WITH THE OVER. THEN THE MATERIAL WAS GROUND, MIXED, AND LOADED INTO GRAPHITIZED AMPOULES TO LET THE SINGLE CRYSTALS GROW: MAXIMUM LENGTH OF THE CRYSTALS WAS 7 CM, WITH A DIAMETER OF 1 CM. THE CRYSTALS WERE CHECKED FOR ELECTRIC HOMOGENEITY BY THE THERMO EMF METHOD, HALL CONSTANT, AND BY MICROHARDNESS TESTS. FACILITY: INSTITUTE OF SEMICONDUCTORS, ACADEMY OF SCIENCES, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SYNTHESIS OF LEAD TELLURIDE SINGLE CRYSTALS -U-
AUTHOR-(03)-KARKLINA, M.I., ABLOVA, M.S., MUZHDABA, V.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. SSSR. MOSCOW, NEORGANICHESKIYE MATERIALY, VOL 6, NO 5, MAY
70, PP 985-987
DATE PUBLISHED----MAY70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--LEAD COMPOUND, TELLURIDE, SINGLE CRYSTAL, HIGH PRESSURE
EFFECT, CHEMICAL SYNTHESIS, SEMICONDUCTOR MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1536 STEP NO--UR/0363/70/006/005/0985/0987
CIRC ACCESSION NO--AP0133462
UNCLASSIFIED

USSR

KARKLINA, M. I., et al., Neorganicheskiye Materialy, Vol 6,
No 5, May 70, pp 985-987

length of the crystals was 7 cm, with a diameter of 1 cm. The
crystals were checked for electric homogeneity by the thermo-emf
method, Hall constant, and by microhardness tests.

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- (9) -

Single Crystals

USSR

A UDC 546.815'24:548.55

KARKLINA, M. I., ~~ABLOVA, M. S.~~, MUZHDABA, V. M., Institute of Semiconductors, Academy of Sciences, USSR

"Synthesis of Lead Telluride Single Crystals"

Moscow, Neorganicheskiye Materialy, Vol 6, No 5, May 70, pp 985-987

Abstract: Lead telluride single crystals were obtained by the Bridgeman method. First lead telluride was synthesized by alloying the respective components. The degree of purity of the starting material had no effect on the single crystals. Prior to synthesis, the ampoules were graphitized to prevent leaching out of oxygen and water. The synthesis was carried out at 1000-1040°C for 15-20 min, followed by cooling of the ampoule with the oven. Then the material was ground, mixed, and loaded into graphitized ampoules to let the single crystals grow; maximum
1/2

2/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70
 CIRC ACCESSION NO--AT0132494
 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE MAGNETIC BEHAVIOR WAS STUDIED
 FOR THE CHELATES OF $Fe(III)$ WITH THE THIOSEMICARBAZONE OF
 SALICYLALDEHYDE (H SUB2 THAS) AND OF PYRORACEMIC ACID (H SUB2 THPU).
 THE CHELATES NH SUB4($Fe(THSA)$ SUB2) AND NH SUB4($Fe(THPU)$ SUB2) WERE
 STUDIED AT 80-393DEGREESK, AND THEY WERE FOUND TO HAVE A LOW SPIN.
 HOWEVER, THE MIXED COMPLEX NH SUB4($Fe(THSA)(THPU)$).1.5H SUB2 O EXHIBITED
 ANOMALOUS MAGNETIC BEHAVIOR. THIS IS EXPLAINED BY THE THERMAL EQUIL.
 BETWEEN THE GROUND AND 1ST EXCITED ELECTRON LEVELS. THE LIMITING, LOW
 TEMP. VALUE OF μ SUB3FF DOES NOT REACH THE LOW SPIN VALUE.
 FACILITY: MOSK. FIZ.-TEKH. INST., MOSCOW, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ANOMALOUS MAGNETIC BEHAVIOR OF IRON, III, CHELATES WITH
THIOSEMICARBAZONES OF SALICYLALDEHYDE AND PYRORACEMIC ACID -U-
AUTHOR-(04)-IVANOV, E.V., ZELENTSOV, V.V., GERBELEU, N.V., ABLOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 827-30

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IRON COMPOUND, CHELATE COMPOUND, MAGNETIC PROPERTY, AMMONIUM
COMPOUND, ELECTRON ENERGY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0222

STEP NO--UR/0020/70/191/004/0827/0830

CIRC ACCESSION NO--AT0132494

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0125280

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORY OF POLARIZED LUMINESCENCE SPECTRA FOR COMPLEXES OF D_{4h} (TETRAGONAL) AND D_{3d} (TRIGONAL) SYMMETRY IS CONSIDERED. FOR TRANSITIONS FROM A NON DEGENERATE STATE TO A DEGENERATE STATE IF LIGHT IS POLARIZED ALONG (100), POLARIZED LUMINESCENCE IS OBSD., BUT IF LIGHT IS POLARIZED ALONG (111), LUMINESCENCE IS COMPLETELY DEPOLARIZED AND THE EXCITED STATE HAS TETRAGONAL MIN. IF FOR LIGHT POLARIZED ALONG (111) LUMINESCENCE IS PARTIALLY POLARIZED, BUT FOR LIGHT POLARIZED ALONG (100) LUMINESCENCE IS COMPLETELY DEPOLARIZED, THE EXCITED STATE HAS TRIGONAL MIN. FOR TRANSITIONS BETWEEN DEGENERATE STATES, THE PRESENCE OF 2 BANDS REPRESENTING MAGNETIC DIPOLE TRANSITIONS BETWEEN THE DEGENERATE STATES PROVES THE EXISTENCE OF TRIGONAL MIN. IN BOTH STATES. IN THE PRESENCE OF 1 BAND, LIGHT POLARIZED PARALLEL TO (100) WITH LUMINESCENCE PARTIALLY POLARIZED IN THE SAME DIRECTION IMPLIES TETRAGONAL MIN., WHILE COMPLETELY DEPOLARIZED LUMINESCENCE IMPLIES TETRAGONAL AND TRIGONAL MIN. THESE RESULTS HOLD ONLY IN THE ADIABATIC APPROX. AND NEGLECT TUNNELLING BETWEEN EQUIV. CONFIGURATIONS. IF TUNNELLING OCCURS, THE LUMINESCENCE IS DEPOLARIZED. FACILITY: INST. KHIM., KISHINEV, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--POLARIZATION OF BANDS IN THE OPTICAL SPECTRA OF TRANSITION METAL
COMPLEXES WITH ACCOUNTING FOR THE JAHN TELLER EFFECT --U-
AUTHOR--(04)--TSUKERBLAT, B.S., VEKHTER, B.G., BERSUKER, I.B., ABLOV, A.V.
COUNTRY OF INFO--USSR
SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 102-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--LUMINESCENCE SPECTRUM, EXCITED STATE, TRANSITION METAL,
COMPLEX COMPOUND
CCTRL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1658 STEP NO--UR/0192/70/011/001/0102/0107
CIRC ACCESSION NO--AP0125280
UNCLASSIFIED

USSR

A

VAYNSHTEYN, B. K., Corresponding Member of the Academy of Sciences USSR, D'YAKON, I. A., and ABLOY, A. V., Academician of the Academy of Sciences Moldavian SSR, Institute of Crystallography of the Academy of Sciences USSR, Moscow, Institute of Applied Physics of the Academy of Sciences Moldavian SSR, Kishinev

"Electron-Diffraction Determination of Structure of DL- α -Cupric Alaninate"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 2, 1970, pp 330-332

Abstract: Continuing their study of copper salts of α -amino acids, the authors describe the results of an electron-diffraction study of the anhydrous copper salt of DL- α -alanine $\text{Cu}(\text{H}_2\text{NCH}(\text{CH}_3)\text{COO})_2$, which is isolated in the form of very thin brittle plates closely abutting one another. Electron-diffraction patterns from textured polycrystal and point diffraction patterns were obtained on the EG electron-diffraction camera of the Institute of Crystallography, Academy of Sciences USSR.

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2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
 CIRC ACCESSION NO--ATO138271
 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE EPR HYPERFINE STRUCTURE OF CU
 SUB2 (O SUB2 CR) SUB4 .2L, WHERE R EQUALS ME, ET PHCH SUB2, CLCH SUB2,
 CL SUB3 C, AND L EQUALS 2,CHLOROPYRIDINE, PH SUB3 P, UREA, QUINOLINE,
 BETA NAPHTHOQUINOLINE, ALPHA PICOLINE, WERE INVESTIGATED. WITH AN
 INCREASE OF THE ELECTRONEGATIVITY OF THE ACID GROUP THE CU-O SIGMA BOND
 BECOMES MORE IONIC. THE IONIC CHARACTER OF THE CU-O BOND ALSO
 INCREASES WITH INCREASE OF THE ELECTRON DONOR PROPERTIES OF THE AXIAL
 LIGANDS IN THE COMPLEX. WITH A CHANGE IN THE CHARACTER OF THE CU-O
 SIGMA BOND, THE CHARACTER OF THE PLANAR PI BOND CHANGES IN THE REVERSE
 DIRECTION. THESE RESULTS CAN BE USED TO ELUCIDATE THE MECHANISM OF THE
 EXCHANGE INTERACTION OF CU-CU AS HAVING INDIRECT CHARACTER, AND THE
 OBSD. SIGNIFICANT EXCHANGE INTEGRAL IS PROBABLY DUE TO JOINT
 MANIFESTATIONS OF INTERACTIONS THROUGH SIGMA AND PI BONDS OF CU-O AND
 O-C. FACILITY: KAZAN. FIZ.-TEKH. INST., KAZAN, USSR.

UNCLASSIFIED

172 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--HYPERFINE STRUCTURE AND NATURE OF EXCHANGE INTERACTIONS IN COPPER
CARBOXYLATE -U-
AUTHOR-(04)-YABLOKOV, YU.V., GAVRILOV, V.V., ABLOV, A.V., MILKOVA, L.N.
COUNTRY OF INFO--USSR
SOURCE--DOKL AKAD. NAUK SSSR 1970, 191(5), 1102-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HYPERFINE STRUCTURE, COPPER COMPOUND, COMPLEX COMPOUND, IONIC
BONDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/1260 STEP NO--UR/0020/70/191/005/1102/1105
CIRC ACCESSION NO--AT0138271
UNCLASSIFIED

Acc. Nr.

AP0034214

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code

UR 0078

A

74198d Complexes of cobalt and nickel with pyruvic acid thiosemicarbazone. Ablov, A. V.; Gerbeleu, N. V.; Negryatse, N. Ya.; Revenko, M. D. (USSR). Zh. Neorg. Khim. 1970, 15(1), 123-7 (Russ). Dark-brown cryst. $\text{NH}_4[\text{CoL}_2] \cdot \text{H}_2\text{O}$ (I) formed on oxidn. of a mixt. of NH_4OH soln. of pyruvic acid thiosemicarbazone (H_2L) and a Co(II) salt. Reaction of I with HCl gave $[\text{Co}(\text{HL})(\text{L})] \cdot 1/2\text{H}_2\text{O}$ and $[\text{Co}(\text{HL})_2] \cdot 3.5\text{H}_2\text{O}$ and with $\text{MCl}_2 \cdot n\text{H}_2\text{O}$ gave $\text{M}[\text{CoL}_2]_2 \cdot n\text{H}_2\text{O}$ where $\text{M} = \text{Cu}$ or Mn . Light-green cryst. $[\text{Ni}(\text{HL})_2] \cdot \text{H}_2\text{O}$ was prepd. analogously to I. When $\text{C}_5\text{H}_5\text{N}$ (py) or α -methylpyridine (α -Me-py) were added to the reaction mixt., the product was NiL(py) or $\text{NiL}(\alpha\text{-Me-py})$, resp. Complexes of Ni or Co contg. neutral H_2L failed to form.

HMJR -

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REEL/FRAME

19710867

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Acc. Nr.

AP0034213

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code

UR 0028

A

74158r Copper salts of the semicarbazone and thiosemicarbazone of pyruvic acid. Ablov, A. V.; Belichuk, N. I.; Chapurina, L. F. (Inst. Khim., Kishinev, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 112-18 (Russ). Cryst. $\text{CuXL} \cdot n\text{H}_2\text{O}$ pptd. when pyruvic acid semicarbazone (HL) was added to CuX_2 soln., where X = Cl or Br. Pyruvic acid thiosemicarbazone ($\text{H}_2\text{L}'$) forms 3 kinds of complexes with Cu: $\text{CuX}(\text{HL}')$, $\text{Cu}(\text{HL}')$, and CuL' . $\text{H}_2\text{L}'$ and HL behave as tridentate ligands. HMJR

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ABLOV A.V.

Acc. Nr.

AP0041519

Abstracting Service:
CHEMICAL ABST.

Ref. Code:

4-70
4R0078

85754h Complexes of nickel with diacetyl selenosemicarbazone oxime. Ablov, A. V.; Gerbeleu, N. V.; Negryatse, N. Ya. (Inst. Khim., Kishinev, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 119-22 (Russ). Mixing of a Ni salt soln. with a MeOH soln. of diacetyl selenosemicarbazone oxime (H_2dseo) gave $[Ni(H_2dseo)_2]X_2$ (I), where $X = Cl, Br, I, \text{ or } NO_3$. I are paramagnetic ($\mu_{eff} \sim 3 \mu_B$) and are, therefore, octahedral in structure. When an NH_4OH soln. of H_2dseo was used, the reaction gave $Ni(dseo)(NH_4)_2 \cdot H_2O$. Addn. of $PhNH_2$ to the MeOH soln. of H_2dseo gave $Ni(dseo)(PhNH_2)_2$. The last 2 complexes are diamagnetic. HMJR

REEL/FRADE
19751387

Acc. Nr.

A10050275

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code

U130020

A

104916f Structure of the complex anion $[\text{Co}(\text{SO}_3)_2(\text{NH}_3)_4]^-$.
 Ablov, A. V.; Landa, L. I.; Simonov, Yu. A.; Malinovskii,
 I. I.; Tsvetkov, A. B. (Inst. Khim., Kishinev, USSR). *Dokl.*
Akad. Nauk SSSR 1970, 190(3), 579-81 [Chem] (Russ). X-ray
 anal. of the dark-brown form of $\text{NH}_4[\text{Co}(\text{SO}_3)_2(\text{NH}_3)_4] \cdot 3\text{H}_2\text{O}$ indi-
 cates that the SO_3 groups are in the cis-position and are bonded
 to the Co atom through S. The interat. distances and valence
 angles are tabulated. C. J. Steinberg

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REEL/FRAME
19810205

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14

Organophosphorous Compounds

UDC 541.621'49:546.733'18'86:547.442.2

USSR

ABLOV, A. V., BOTOSHANSKIY, M. M., SIMONOV, YU. A., KALINOVSKIY, T. I.,
GOLDMAN, A. M., and BOLOGA, O. A., Institute of Applied Physics, Academy of
Sciences MSSR, Institute of the Chemistry, Academy of Sciences MSSR, Kishinev

"A New Kind of Stereoisomerism in trans-Dioximines of Cobalt (III) With
Triphenylphosphine and Triphenylstibine"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 4, Oct 72, pp 863-865

Abstract: In an earlier publication it was reported that triphenylphosphine,
triphenylarsine, and triphenylstibine can easily replace water in trans-
acidoaquadioximines of cobalt (III) forming compounds $[CoX(DH)_2LPh_3]$

where X = Cl, Br, or I, and E = P, As or Sb. Furthermore, it was shown that
these products occur as mixtures of two modifications. This paper covers
x-ray diffraction studies of such compounds. The experimental results
obtained show that cobalt (III) dioximines exhibit an unique case of stereoi-
somerism. Both modifications are in trans-configuration; in one case two
chelate units DH are located in a plane, in the other the DH chelate
planes are at an angle to each other, the cobalt atom being moved out of the
center of the octahedron.

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136253

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACID DISSOCN. CONSTS. (K SUBA) OF (CO(OH) SUB2 A SUB2) PRIMEPOSITIVE, WHERE A EQUALS BETA OR GAMMA SUBSD. PYRIDINE (PY) AND OH EQUALS MEC(:NOH)C (:NO PRIMENEGATIVE) ME, WERE DETD. POTENTIOMETRICALLY AND SPECTROPHOTOMETRICALLY. THE VALUES OF PK SUBA FOR COMPLEXES HAVING A EQUALS GAMMA MEPY, BETA CLPY, BETA CH SUB2 :CHPY, BETA NH SUB2 PY, BETA ETPY ARE TABULATED. PK SUBA VALUES OF FREE A CHANGE WITH SUBSTITUTION FROM 2.84 TO 6.02 WHILE THOSE OF (CO(OH) SUB2 A SUB2) PRIMEPOSITIVE ARE WITHIN A VERY NARROW VALUE RANGE OF 7.15-7.40. FACILITY: KISHINEV. GOS. UNIV., KISHINEV, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ACID BASE PROPERTIES OF COBALT, III, TRANS DIOXIMES -U-
AUTHOR--(03)-ABLOV, A.Y., BOVYKIN, B.A., ZEMLYAK, V.YU.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 466-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--COBALT COMPLEX, OXIME, POTENTIOMETRIC TITRATION,
SPECTROPHOTOMETRY, DISSOCIATION CONSTANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0819 STEP NO--UR/0018/70/015/002/0466/0469
CIRC ACCESSION NO--AP0136253
UNCLASSIFIED

USSR

UDC [537.2(6:537.311.33):535]

TSUKERELAT, B. S., and ANLOV, A. V.

"Temperature Dependence of Magnetic Susceptibility of Exchange-Coupled Ions"

V sb. Teoriya elektron. obolochek atomy i molekuly (Theory of Electron Shells of Atoms and Molecules -- Collection of Works), Vil'nyus, "Mintis," 1971, pp 290-293 (English summary) (from Izh-Fizika, No 2, Feb '72, Abstract No 2Yel372 from summary)

Translation: The problem of the temperature dependence of the magnetic susceptibility of a complex which includes several paramagnetic ions is solved within the scope of the spin hamiltonian of an isotropic exchange interaction. The existing theory of the magnetism of such complexes is discussed critically. General considerations developed in the work are illustrated by calculating the magnetic susceptibility of three and four exchange-coupled ions with identical spins.

1/1

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SHRINKAGE OF ORGANOSILICON BINDERS, E.G., POLY(METHYLSILOXANES) (I), POLY(METHYLPHENYLSILOXANES) (II), AND POLY(PHENYLSILOXANES) (III), WAS STUDIED DURING HARDENING BY A THERMOMECH. METHOD (V. A. KARGIN, 1960). THE LINEAR EXPANSION COEFFS. (ALPHA) OF I, II, AND III WERE DETD. AS A FUNCTION OF TEMP. II AGES AT 200-400DEGREES FOR 10-100 HR HAD A SLIGHTLY LOWER ALPHA, PRESUMABLY DUE TO FURTHER CROSSLINKING.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SHRINKAGE AND THERMAL EXPANSION OF ORGANOSILICON COMPOUND POLYMERS
-U-
AUTHOR-(03)-KISELEV, B.A., STEPINA, I.A., ABLEKOVA, Z.P.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (3), 18-20
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--THERMAL EXPANSION, SILOXANE, POLYMER BINDER, POLYMER
CROSSLINKING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0668 STEP NO--UR/0191/70/000/003/0018/0020
CIRC ACCESSION NO--AP0119576
UNCLASSIFIED

USSR

UDC 678.06-419.8:677.521/.01:53

KIRILLOV, V. N., YEFIMOV, V. A., KOZIN, V. I., ABLEKOVA, Z. P.,
KRASNOV, L. L., TIKHOMIROVA, R. S.

"Effect of Fillers on the Thermophysical Properties of Fiberglass
Plastics"

Moscow, Plasticheskiye Massy, No 11, Nov 70, pp 38-40

Abstract: The authors investigate the effect which chemical composition and heat treatment of the filler have on the thermophysical properties of fiberglass plastics at 50-300°C. The plastics studied were based on phenol-furfural or organosilicon binders, and fillers comprised of silica or aluminoborosilicate fabric with a paraffin lubricant. It was found that the behavior of the thermophysical characteristics of fiberglass plastics as the temperature changes depends on the processes which take place in the filler. In materials based on aluminoborosilicate fiber, oxidation of the lubricant determines the change in thermophysical properties with temperature, while the determining factor in plastics based on silica fabric is evaporation of the moisture absorbed by the fibers. Heat treatment of silica fabric is an effective measure for reducing shrinkage of plastics based on this filler.

1/1

UDC 62-135:533.6.001.5

USSR

ABLAMSKIY, V. A.

"Some Problems in Determining the Reactivity of Turbine Stages"

Energeticheskoy Mashinostroyeniye. Resp. Mezhd. Temat. Nauch.-Tekhn. Sb.
(Power Machinery Construction. Republic Inter-Departmental Thematic Scientific-
Technical Collection of Works), 1971, 11th Edition, pp 49-55 (from Referativnyy
Zhurnal - Turbostroyeniye, No. 9, Sep 71, Abstract No. 9.49.27)

Translation: The average reactivity of a turbine stage with relatively long
scoops is determined by calculated data from the isentropic flow of the working
fluid, the experimental efficiency and the coefficient of expansion through the
guide blades. This technique supplements the known methods of determining the
average reactivity as the half sum of its experimental values for the central and
peripheral diameters of the inter vane gaps or calculations of reactivity by the
alternate use of theoretical equations and experimental data for expansion and
efficiency (M.Ye. Deych, B.M. Troyanovskiy. Issledovaniya i Raschety Stupeney
Osevykh Turbin (Research and Calculation on the Stages of Axial Turbines)
Mashinostroyeniye Press, 1964). The characteristics of changes in reactivity
are considered and the limits of applicability of calculated relationships in
its determination are evaluated. 3 illustrations, 8 bibliographic entries.

1/1

- 112 -

2/2 013 UNCLASSIFIED PROCESSING DATE--1600T70
 CIRC ACCESSION NO--AP0108230
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFERENTIAL EFFECTIVE CROSS
 SECTION WAS CALCD. IN THE BORN APPROXN. FOR THE PHOTOPRODUCTION OF PAIRS
 IN THE FIELD OF THE ELONGATED NUCLEUS WHICH HAS A MAGNETIC DIPOLE
 MOMENT, BY TAKING INTO ACCOUNT THE LONGITUDINAL POLARIZATION OF ALL OF
 THE PARTICLES WHICH TAKE PART IN THE PROCESS. A FORMULA IS OBTAINED FOR
 THE DEGREE OF LONGITUDINAL POLARIZATION OF THE PARTICLES IN A PAIR
 FORMED BY A CIRCULARLY POLARIZED, HIGH ENERGY PHOTON IN THE FIELD OF THE
 NUCLEUS BY TAKING INTO ACCOUNT THE MEAN SQUARE RADIUS AND THE 4TH POWER
 OF THE MOMENT OF THE CHARGE D. DISTRIBUTION AND THE MAGNETIC DIPOLE
 MOMENT OF THE NUCLEUS. THE FORMULAS THAT WERE OBTAINED ARE USED TO
 STUDY THE EFFECT OF THE FINITE DIMENSIONS OF THE NUCLEUS ON THE ANGULAR
 DISTRIBUTION OF NONPOLARIZED AND LONGITUDINALLY POLARIZED PAIRS AND ON
 THE DEGREE OF LONGITUDINAL POLARIZATION OF THE E NEGATIVE (E POSITIVE)
 WHICH FORM THE PAIRS.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF FINITE DIMENSIONS OF NUCLEUS WITH MAGNETIC DIPOLE MOMENT
ON THE PHOTOPRODUCTION OF A PAIR BY CONSIDERING THE POLARIZATION OF THE
AUTHOR-(02)-KERIMOV, B.K., ABLAKULOV, KH.A. A

COUNTRY OF INFO--USSR

SOURCE--VESTN. MOSK. UNIV., FIZ., ASTRON. 1970, 11(1), 15-25

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PAIR PRODUCTION, NUCLEAR STRUCTURE, DEFORMED NUCLEUS,
DIFFERENTIAL CROSS SECTION, MAGNETIC DIPOLE MOMENT, ELECTRON
POLARIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1900

STEP NO--UR/0188/70/011/001/0015/0025

CIRC ACCESSION NO--AP0108230
UNCLASSIFIED

USSR

UDC: 621.317.335.3

BARTASHEVSKIY, Ye. L., BEREZA, A. Ye., PRIVALOV, Ye. N., ABKIN, Ye. B.

"Measurement of the Permittivity of Plates Which Partially Fill the Cross Section of a Rectangular Waveguide"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 77-78 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A366)

Translation: A procedure is considered for determining permittivity on the basis of plotting the field structure in the longitudinal and transverse cross section of a rectangular waveguide on the H_{10} mode with a plate on the narrow wall of propagation for the case where the permittivity of the plate is a complex quantity. The fundamental relationships are presented and some computational singularities are indicated. The results of some measurements of permittivity in the 3-cm band are given. Bibliography of two titles. E. L.

1/1

USSR

UUC: 021.973.42

ABRAEVICH, I. I., LATINS, V. S.

"An SHF Oscillator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Geratsyy, Izvremennyye Sankii, no 18, 1970, Author's Certificate no 239177, filed 23 May 68, p 195

Abstract: This Author's Certificate introduces an SHF oscillator with electronic frequency tuning based on a Gunn diode. As a distinguishing feature of the patent, the range of electronic frequency adjustment is extended by adding an inductance in the load circuit of the oscillator. Structurally this inductance takes the form of two sections of the middle conductor of a coaxial cable connected to the diode.

Pathology

USSR

UDC 616.24-002-022.7:576:851.2]-092.9

ABKAROVICH, G. F., and AKIMCHENKOV, N. A., Ivano-Frankovsk Medical Institute

"Experimental Enterococcal Pneumonia in White Rats"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971,
pp 137-139

Abstract: Within 18 hours of intratracheal infection of rats with a broth culture of Enterococci (strain 809), pneumonic foci were covering an entire lobe. These and other changes (inflammation, multiple hemorrhages) intensified until the 40th day, when the process began to subside and concentrate in the perihilar zone with the lower lobes of both lungs involved. Pure enterococcal cultures were isolated from the lungs of 60 of the 69 experimental animals. By the 40th day the elastic fibers of both blood vessels and lung tissue were undergoing fragmentation, thickening, and gradual defibrillation. Pneumonia persisted in the animals that survived to the 68th day along with symptoms of peribronchitis and hyalinosis of the walls of small blood vessels.

Public Health, Hygiene and Sanitation

UDC 638.394(047)

USSR

ABIYEVA, R. M., Candidate of Medical Sciences, Institute of General and
~~Communal Hygiene~~ imeni A. N. Sysin, Academy of Medical Sciences USSR, Moscow

"A New Biological Agent Capable of Promoting the Natural Self-Purification of
Bodies of Water"

Moscow, Gigiyena i Sanitariya, No 4, 1971, pp 72-75

Abstract: Review of the literature on the morphological characteristics and behavior of the bdellovibrio, a microorganism found in the surface waters and sewage of every continent, is presented. The bdellovibrio, which can lyse a variety of pathogenic microorganisms commonly found in water (Salmonella typhi, Shigella paradyseenterae, E. coli, Vibrio Cholera, and Clostridium perfringens), is believed by Guslin, who first described it in some detail (1952), to be the principal bactericidal agent present in polluted water. The Institute of General and Communal Hygiene is investigating the bdellovibrio as a possible accelerator of the processes of self-purification of natural water and sewage because of its marked activity against a large number of pathogenic microorganisms regardless of ecological conditions, long survival time, and broad geographical distribution.

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120438

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HALL EMF. AND THE COND. OF N
TYPE GE (RESISTIVITY 0.1-14.0 OHM CM) DURING THE IRRADN. BY 38-MEV
ELECTRONS, WERE MEASURED AT 88DEGREEK. THE EXPTL. RESULTS ARE
EXPLAINED BY THE FORMATION OF DISORDERED REGIONS; TO CALC. PARAMETERS OF
THESE REGIONS, THE GOSSICK MODEL (1959) WAS USED. THE MOST PROBABLY
MEAN VALUES ARE GIVEN: THE RADIUS OF THE REGION 135-900 ANGSTROM, THE
CONCN. OF ACCEPTORS 10 PRIME 17-3 TIMES 10 PRIME 19-CM PRIME 3, AND THE
THRESHOLD ENERGY OF THE FORMATION OF REGIONS 15-19.7 KEV.
FACILITY: INST. FIZ., BAKU, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--LOW TEMPERATURE IRRADIATION OF GERMANIUM BY 28-MEV ELECTRONS -U-
AUTHOR-(02)-ABIYEV, A.K., UKHIN, N.A.
COUNTRY OF INFO--USSR A
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(3), 484-7
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--GERMANIUM, IRRADIATION, ELECTRON

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1726 STEP NO--UR/0449/70/004/003/0484/0487
CIRC ACCESSION NO--AP0120438
UNCLASSIFIED

USSR

UDC 669.71.053.2(088.S)

MAL'TSEV, V. S., and ABISHEVA, R. U., Chemicometallurgical Institute of Academy of Sciences Kazakh SSR

"Method for Reduction of Sodium Aluminate"

USSR Authors' Certificate No 282649, Cl. 40a 5/04, (C 22 b 5/04), filed 9 Feb 67, published 2 Aug 71 (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1G115P by G. Svodtseva)

Translation of Abstract: The method for the reduction of Na aluminate by aluminum taken with an excess $\leq 50\%$ at residual pressure ≤ 0.8 mm Hg and temperature of 1000° - 1100° is unique in that up to 5% NaF is added to the charge in order to obtain pure alpha-modifications of Al_2O_3 and Na. The method makes it possible to obtain pure Na and an alpha-modification of Al_2O_3 with purity $\geq 95\%$.

USSR

KHAIYOV, R. KH., RAYMONADOV, T. B., and ABIRKHLOV, A.

"Change of Biochemical Blood Indicators in Rabbits during Chronic Diphtheria Poisoning"

Dokl. AN USSR (Reports of the Academy of Sciences USSR), 1970, No 7, pp 57-58 (Uzbek summary) (from Khim-Biologicheskaya Zhurn., No 2, 25 Jan 71, Abstract No 27811 by J. KHAIYOV)

Translation: The administration of batiches internally to rabbits in a dose of 12 mg/kg per day (1/10 LD; 5-60 days) induces a decline in total protein and gamma globulin content of the blood serum, an increase in serum concentration and a decline in the activity of true cholinesterase in the blood.

2/2 027

UNCLASSIFIED

PROCESSING DATE--30JCT70

CIRC ACCESSION NO--AP0123264

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS GIVEN OF A METHOD FOR CUTTING HARD TO MACHINE MATERIALS WITH HEATING IN AN ELECTROLYTE. THE POSSIBILITY OF OXIDATION FREE HEATING OF THIS TYPE OF MATERIALS DURING THE MACHINING PROCESS IS ESTABLISHED. INSTRUMENT STABILITY IS INCREASED 10-20 TIMES IN TURNING THE YUNDK35TS MAGNETIC ALLOY WITH HEATING IN AN ELECTROLYTE AND A CORRESPONDING INCREASE OF 3-10 IS ACHIEVED IN TURNING THE VTZ-1 ALLOY.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HEATING BLANKS IN ELECTROLYTE DURING TURNING OF HARD TO MACHINE
MATERIALS -U-
AUTHOR-(04)-LARIN, M.N., PROKHOROV, V.V., ABINDER, A.A., MARTYNOV, G.A.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, STANKI I INSTRUMENT, NO 3, 1970, PP 22-23
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL MACHINING, BIBLIOGRAPHY, MAGNETIC ALLOY, METAL HEATING,
HOT MACHINING, ALLOY DESIGNATION, TITANIUM ALLOY/(U)YUNDK35TS MAGNETIC
ALLOY, (U)VT31 TITANIUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1305

STEP NO--UR/0121/70/000/003/0022/0023

CIRC ACCESSION NO--AP0123264
UNCLASSIFIED

USSR

KHITROV, N. K., et al., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 2, pp 86-87

concentration increased. In the second series of experiments, administration of 5 mg/kg of chlorpromazine increased blood acetylcholine slightly but had no effect on cholinesterase activity. Intravenous injection of 1.5 mg of KCN 15 minutes later altered blood cholinesterase and acetylcholine insignificantly. The larger dose (3.2 mg/kg) had the same effects of these indexes as in intact animals.

USSR

UDC 616-008.922.1.04-02:615.916.546.267-07:616.45+
616.8397-008

KHITROV, N. K., DEMUROV, YE. A., and ABINDER, A. A., Department of Pathological Physiology and Department of Hospital Therapy, First Moscow Medical Institute imeni I. M. Sechernov

"Role of the Sympathoadrenal System in Altering Cholinergic Activity During Acute Tissue Hypoxia Induced by Cyanides"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 2, pp 86-87

Abstract: In one series of experiments, rabbits were given potassium cyanide intravenously and 40 to 60 min later, a larger dose of the compound. In another series, the animals were given chlorpromazine intravenously 15 to 20 min before the first dose of potassium cyanide in order to block the adreno-reactive structures. Administration of 1.5 mg/kg or KCN to the animals caused motor excitation, elevation of arterial pressure, and development of bradycardia. Blood cholinesterase activity decreased while blood acetylcholine increased. Injection of 3.2 mg/kg of KCN after the animals' respiration, EKG, and arterial pressure returned to normal lowered arterial pressure and slowed the pulse. Blood cholinesterase activity remained low, but the acetylcholine 1/2

UDC: 517.512

USSR

ABILOV, V. A., Makhachkala

"The Order of Approximating Continuous Functions Using the Arithmetic Means of the Partial Sums of the Fourier-Hermite Series"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy: Matematika, No 3 (118), Mar 1972, pp 3-9

Abstract: The author proposes a simpler proof of the given theorem than that presented by A. Kh. Rabayev (IAN AzerbSSR, Ser. fiz.-tekh. i matem. n., No 2, 1966, pp 3-14)

$$\sup_{f \in H_{\omega}} |f(x) - S_n(f; x)| = O\left\{\omega\left(\frac{1}{\sqrt{n}}\right)\right\}, \text{ where the estimate of } O(1)$$

is uniform at the interval $[a, b]$, and generalizes the theorem to a class of functions $W_{\omega}^r(r=1, 2, \dots)$. The author expresses his gratitude to S. A. Agakhyanov for his useful advice. Original article: 14 formulas and six bibliographic entries.

1/1

2/2 037

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0103828

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. A HOLE, DIAM. 3.2 MM., WAS DRILLED ALONG THE AXIS OF AN N-INSB SINGLE CRYSTAL, DIAM. 10 AND LENGTH 15 MM. AN ELECTRON BEAM PASSING THROUGH THE HOLE WAS FOCUSED BY AN AXIAL MAGNETIC FIELD. THE BEAM INTERACTED WITH HELICONS AT 90-130DEGREESK AT MAGNETIC FIELDS OF 2-12 KOE. INTERACTION WAS ABSENT AT ROOM TEMP. THE PLOT ULTRA HIGH FREQUENCY POWER VS. THE ACCELERATING VOLTAGE OF THE BEAM EXHIBITED SEVERAL MAX. THE VELOCITY OF THE BEAM CORRESPONDED TO THE PHASE VELOCITY OF HELICONS, SOT HAT FOR HELICONS AND A SLOW WAVE OF SPACE DISCHARGE, SYNCHRONISM WAS PRESENT IN THE BEAM.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--AMPLIFICATION OF HELICONS IN INDIUM ANTIMONIDE BY AN ELECTRON BEAM
-U-
AUTHOR-(02)-ABILOV, G.S., BAYBAKOV, V.I. A
CCOUNTRY OF INFO--USSR
SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(3), 192-5
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTRON BEAM, INDIUM ANTIMONIDE SEMICONDUCTOR,
ELECTROMAGNETIC INTERACTION, PHASE VELOCITY, SINGLE CRYSTAL PROPERTY,
TEMPERATURE DEPENDENCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/0149 STEP NO--UR/0386/70/011/003/0192/0195
CIRC ACCESSION NO--AP0103828
UNCLASSIFIED

USSR

ABILOV, A. N., Doklady Akademii Nauk Azerbaydzhanskoy SSR, Vol 27, No 4, 1971, pp 55-58

the sum of the effects of the two doses. A similar relationship was obtained for chromatid aberrations, except that the latter could be estimated only for intervals of 12-24 hrs between the two irradiations. The first relationship applied to the phase G_1 , and the second, to the beginning of the phase S. Because irradiation with 1000 r 24 hrs after the moistening of seeds damaged 100% of the cells, the effects of irradiation with 200 r at this time, which resulted in aberrations in 9% of the cells, were taken into consideration in arriving at the relationships obtained. (Submitted by I. K. Abdullayev, Member, Academy of Sciences Azerbaydzhans SSR)

2/2

USSR

ABILOV, A. N., Institute of Genetics and Selection, Academy of Sciences
Azerbaijdzhan SSR

"The Interaction of Two Doses of Gamma-Rays in the Irradiation of Moistened
Seeds of *Crepis capillaris*"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, Vol 27, No 4, 1971, pp
55-58

Abstract: The interaction of two doses of gamma-rays in producing mutagenic effects upon irradiation of seeds of *Cr. capillaris* that had been moistened 1 hr before the first irradiation was studied. The first irradiation, which took place in the phase G₁, was with 5000 r and the second (1, 2, 4, 8, 12, 16, 20, 24, or 26 hrs later) with 1000 r. For control purposes, other *Cr. capillaris* seeds that had been moistened were irradiated with a single dose (5000 r 1 hr after moistening or 1000 r after expiration of a time equal to that elapsed between the two irradiations of the experimental seeds). With respect to chromosome aberrations, irradiation with the two doses at an interval \leq 2 hrs produced an effect greater than that which corresponded to the sum of the effects of the two doses, while irradiation with the two doses at an interval of 2-26 hrs produced an effect smaller than that of 1/2

USSR

ABIDZHANOV, M. S., et al, Veterinariya, No 8, Aug 70, pp 47-48

globulins increased. In sheep which were vaccinated twice, the concentrations of total protein and gamma-globulins increased, while the concentrations of alpha- and beta-globulins decreased. No shifts were observed in the control animals.

2/2

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127584

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. INTRODUCING CA INTO AN AL CO CR CATALYST MAKES IT POSSIBLE TO PERFORM 1ST STAGE HYDROCRACKING OF VACUUM GAS OIL UNDER RELATIVELY MILD CONDITIONS, WITH HIGH SELECTIVITY FOR THE DIESEL FUEL FRACTION.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23JUL70
TITLE--TESTING A MODIFIED ALUMINA COBALT CHROMIA CATALYST IN HYDROCRACKING
-U-
AUTHOR--(03)-ABIDOVA, M.F., SULTANOV, A.S., MIRDZHURAYEV, R.
COUNTRY OF INFO--USSR A
SOURCE--UZB. KHIM. ZH. 1970, 14(1), 26-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PROPULSION AND FUELS
TOPIC TAGS--CATALYTIC CRACKING, METAL CATALYST, CALCIUM, ALUMINUM, COBALT,
CHROMIUM, DIESEL FUEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/2222 STEP NO--UR/0291/70/014/001/0026/0028

CIRC ACCESSION NO--AP0127584
UNCLASSIFIED

Acc. Nr: **AP0051960**

Ref. Code: **UR 0219**

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol **69**, Nr **3**, pp **122-125**

ON THE PARTICIPATION OF DEXTRAN IN INTRACELLULAR METABOLIC
REACTIONS IN PROXIMAL CONVOLUTED RENAL TUBULES

S. S. Chizhova, A. Z. Abidova

Laboratory of Electron Microscopy of the Uzbek Scientific Research
Institute of Hematology and Blood Transfusion

Using cytochemical and electron microscopic investigations the authors have demonstrated that upon administration to rats of dextran (polyglucin, SF-4 strain) for plastic and energetic purposes of intracellular metabolism in the proximal convoluted renal tubules only glucose is utilized, which appears during the splitting of polyglucin in the organism. Morphologically this is manifested by the formation of a complex of substances closely associated with cellular mitochondria. By comparing these data with the results of investigations, obtained earlier with the administration of protein and glucose, the authors arrived at the opinion that only organic substances are utilized for plastic and energetic purposes. The greater part of reabsorbed dextran is deposited in the cell, in the endoplasmatic reticulum in the form of large drops and does not participate in metabolic reactions of the cell.

REEL/FAME

19820447

2 Rc

UDC 547.26'118

USSR

YULDASHEV, A. Yu., ABIDOV, S. AND AZIMOV, Z.

"On the Synthesis of Several Dialkyl Phosphates"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 1034-1035

Abstract: Higher dialkyl phosphates (C_4-C_8) were obtained by oxidation of dialkylphosphites with nitrogen dioxide or chlorine dioxide. These phosphates were tested for use as liquid ionites for reducing ash content, and for improving the reactivity of cotton cellulose.

USSR

ABIBOV, A. L., et al., Mekhanika Polimerov, No 1, Jan-Feb 73, pp 162-164
of prehardening of the fiberglass strip is presented. Five figures, three
bibliographic references.

2/2

USSR

UDC 678.5.06.539.374

ABIBOV, A. L., BUNAKOV, V. A., KOPEYKIN, V. N., and KONDRATENKO, R. M., Moscow
Aviation Institute imeni S. Ordzhonikidze

"Determination of the Mechanical Properties of Wound Fiberglass"

Riga, Mekhanika Polimerov, No 1, Jan-Feb 73, pp 162-164

Abstract: A study was made of the problems of determining the transverse modulus of elasticity of a fiberglass material in the wound state and of the rheological properties of the material on the basis of short- and long-time creep curves for processes of winding taking place at normal and elevated temperatures. Rigidity of the investigated material in the transverse direction was determined by compression of 40 layers of glass fibers with EDT-10 binder in a device which did not restrict filtration of the binder in the direction of the reinforcing fibers. It was found that in winding by existing modes, the mechanical behavior of a layer depends essentially on time. To describe the relationship of deformations to load, it was proposed to use a nonlinear model of a Maxwell viscous-elastic body. In winding with prehardening and preheating (80°C) and times commensurable with the time of winding of one layer for large parts, this relationship can be ignored. The relationship of the modulus of elasticity for a layer to the level of loading and magnitude

1/2

2/2 028

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126157

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ISOLATED 30 LACTOSE NEGATIVE MUTANTS OF PATHOGENIC E. COLI 145 (O20:B84). A METHOD MODIFIED BY THE AUTHORS AND SELECTIVE ENDO NUTRIENT MEDIUM WERE USED. MORPHOLOGICAL AND CULTURAL PROPERTIES OF THESE MUTANTS REMAINED THE SAME AS IN THE INITIAL STRAIN 145. A STUDY OF NUTRITIONAL REQUIREMENTS DEMONSTRATED THAT 23 MUTANTS WERE GUANINE DEPENDENT, AS THE INITIAL STRAIN, BUT 7 MUTANTS REVERSED TO PROTOTROPHS. EXAMINATION OF THE RELATIONSHIP OF THE ISOLATED MUTANTS TO COLI PHAGES INDICATED THAT AFTER ULTRAVIOLET IRRADIATION SOME OF THE PATHOGENIC E. COLI RETAINED THEIR SENSITIVITY TO PHAGES OF T GROUP, WHEREAS SOME BECAME RESISTANT TO ALL OR TO INDIVIDUAL PHAGES. FACILITY: TASHKENTSKIY INSTITUT VAKTSIN I SYVOROTOK.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--LACTOSE NEGATIVE MUTANTS OF PATHOGENIC E. COLI 145,020:B84 -U-
AUTHOR-(02)-ZAKIROV, N.A., ABIDOV, A.A. *A*
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,
PP 31-33
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ESCHERICHIA COLI, CONTINUOUS CULTURE, CULTURE MEDIUM, BACTERIA
MUTATION, LACTOSE, GUANINE, PHAGE, PATHOGEN, UV RADIATION BIOLOGIC
EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0402 STEP NO--UR/0016/70/000/006/0031/0033
CIRC ACCESSION NO--AP0126157
UNCLASSIFIED

USSR

ABIDOV, A. A., Professor, ZAKIROV, N. A., Candidate of Medical Sciences and
ZIYAUTDINOVA, S. Z., Laboratory of Genetics of Vaccinal Strains, Tashkent
Scientific Research Institute of Vaccines and Sera

"Characteristics of Auxotrophic Mutants of Enteropathogenic E. coli Serotypes"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 2, 1971, pp 62-65

Abstract: Autotrophic mutants were isolated from three strains of pathogenic serotypes of E. coli -0111:B4:H2, 055:B5:H6, and 026:B6:H11 - under the influence of ultraviolet radiation or N-methyl-N¹-nitro-N-nitrosoguanidine (the more potent mutagen). The various amino acid requirements for growth of the mutants on a minimum medium were identified and tabulated. None of the mutants differed from the original strains in morphological, cultural, or biochemical properties. Study of the mutants in the agglutination reaction with homologous coli sera showed that most of the mutants retained the serological properties of the original strains. A few lost them and in some the serological properties were intensified, especially those induced by N-nitrosoguanidine.

1/1

ABIDIN, B. I.

space physiology

UDC 612.8.06:612.766.2

SO: UPR3 53448
24 June 71EFFECT OF RESTRICTED MOBILITY OF ANIMALS ON THE INTENSITY AND ELIMINATION OF
SOME GASEOUS PRODUCTS OF VITAL FUNCTIONS

(Article by V. V. Kuslov, V. I. Belkin, B. I. Abidin, T. A. Belarova, L. T. Podubnaya and O. P. Ostapenko; Moscow, Russkaya Biologiya i Medicina, Russian Vol 5, No 2, 1971, pp 14-17)
640251
640218

Abstract: It was demonstrated that 15-day reduced activity of male white rats has an insignificant effect on the elimination of ketones and aldehydes and accelerates the elimination of carbon monoxide and ammonia.

Gaseous metabolic products eliminated from the body play an important role in forming the atmosphere of small hermetically sealed spaces. The intensity of formation and elimination of these products are subject to considerable variations in dependence on the effect exerted on the body by a physical load, ambient temperature, ionizing radiation, hypoxia and other factors (S. M. Gerozhinskiy, et al., 1968, 1970; V. V. Kuslov and L. A. Timov; T. B. Kolosova, et al.).

This paper gives the results of a study of the effect of relative hypokinesia, one of the environmental factors in small hermetically sealed spaces, on the intensity of formation and body elimination of some endproducts of its vital functioning. The experiments were made on male white rats weighing 200 g. Hypokinetic cages, specially constructed for this purpose, were used for restricting their mobility; these held the animals for 24 hours, three and fifteen days. Upon expiration of this period the group of "hypokinetic" cages with the experimental rats were placed in a pressurized chamber with a volume of 93 liters equipped with an air conditioning system; this made it possible to create a constant temperature (18-20°C) and relative humidity (not greater than 60 percent) in the chamber and to collect the condensate for successive determination of the water-soluble substances in it. The chamber oxygen concentration was maintained at the 20-21 percent level. The carbon dioxide concentration did not exceed 1 percent.

USSR

ABIDIN, B. I., et al, V sb. Probl. Kosmich. biol., Vol 16, "Nauka," 1971, pp 154-164

of the animals with respect to the action of hypoxic hypoxia, lowering the "physiological ceiling," and increasing the tolerance of acute oxygen starvation. Resume.

2/2

- 7 -

USSR

UDC 577.1:615.7/9

ABIDIN, B. I., ASHMOLOVA, N. N., SGIRNEV, A. K.

"Effect of Certain Toxic Gaseous Substances on the Resistance of Animals to Acute Hypoxic Hypoxia"

Moscow, V sb. Probl. kosmich. biol. (Problems of Space Biology--collection of works), Vol 16, "Nauka," 1971, pp 154-164 (from RZh-Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F2185)

Abstract: The complex gas-air mixture resulting from thermo-oxidative destruction of a synthetic polymer based on pentaerythritol and fatty acids contained gaseous products belonging to various classes of compounds: esters, aldehydes, ketones, organic acids, alcohols, carbon monoxide and various other substances. Animals were inoculated in a 100-liter hermetically sealed chamber by a static method with exposure of one hour. Comparative data are presented on the change in EEG, EKG, and respiration of inoculated and intact rats under conditions of a rarefied atmosphere corresponding to an altitude of 10,000 meters. It was found that the gaseous chemical substances change the behavior of the organism

1/2

SPACE BIOLOGY

UDC 612.43-06:012.273.1

EFFECT OF TRIPLY-LAY CONFINEMENT OF PETS IN AN ATMOSPHERE WITH AN INCREASED OXYGEN CONTENT ON THE ELIMINATION OF SOME CAUSAL PRODUCTS OF VITAL FUNCTIONS

[Article by V. V. Pustov, B. I. Abidin, N. I. Belkin, L. I. Potomayeva, and T. A. Lavrenko, Moscow, ISSLEDOVANIYA PROBLEMY I POZITSII, Russian, Vol. 6, No. 2, September-October 1972, submitted for publication 6 November 1970, pp. 3-23]

Abstract: Experiments on white male rats have shown that 30-day exposure of the animals in a hyperoxic atmosphere (200-300 mm Hg) produced an insignificant effect on the intensity of carbon monoxide elimination, increased ammonia elimination and decreased elimination of ketones and aldehydes.

The possibility of acclimation of the artificial atmosphere in tightly sealed, small-volume chambers by the gaseous products of man's vital functions has led to a series of investigations devoted to a study of the influence of physical, chemical and other environmental factors on the intensity of their formation and elimination from the body into the surrounding medium (V. V. Pustov, L. A. Glincev, T. S. Kolosova, et al.).

This communication presents data on the influence exerted on these processes by the prolonged continuous presence of animals in an artificial atmosphere with an increased oxygen content.

The experiments were performed on white male rats weighing 260-300 g. The experimental animals were kept for 30 days in a pressurized chamber with a volume of 0.184 m³. The oxygen concentration in the chamber atmosphere was maintained automatically at the level 452 (350-360 mm Hg). Carbon dioxide in the atmosphere was maintained at the level 0.3-0.5 by means of continuous return to the chamber. After the animals had been confined in this chamber for 24 hours, 15 and 30 days they were transferred to a chamber with lesser carbon dioxide concentrations in the atmosphere of this chamber were maintained by the method described above at the same level as in the chamber

JRS 57517

15 MAR 72

- 1 -

ABIDIN, B.I.

2/2 028

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0107121

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESIDUAL STRESSES IN AN EDT-10 COMPN. (I) WERE STUDIED AS A FUNCTION OF THE HARDENING TEMP. (UNDER ISOTHERMAL CONDITIONS) AND OF THE EXPTL. TEMP. FOLLOWING SUPPLEMENTAL HEATING. THE NO. OF ISOCHROMES STEADILY DECREASED WITH HEATING REACHING 0 AT A TEMP. (FIXED STRUCTURE TEMP.) WHICH EXCEEDED THE HARDENING TEMP. BY 8-10DEGREES, SUGGESTING THE COMPLETE DISAPPEARANCE OF STRAIN IN I. THE HARDENING TEMP. WAS PROPORTIONAL TO THE FIXED STRUCTURE TEMP. AT 85-180DEGREES.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DEPENDENCE OF RESIDUAL STRESSES IN A GLASS FIBER REINFORCED PLASTIC
BINDER ON HARDENING CONDITIONS -U-
AUTHOR-(05)-ABIBOV, A.L., TITARENKO, G.S., KORINOVASOVA, M.YU., ZHERDEV,
YU.V., ZAKHAROV, A.M. A
COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 176

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GLASS FIBER, REINFORCED PLASTIC, RESIDUAL STRESS, POLYMER
BINDER/(U)EDT10 PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0516

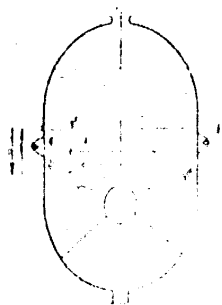
STEP NO--UR/0374/70/006/001/0176/0176

CIRC ACCESSION NO--AP0107121

UNCLASSIFIED

USSR

ABGARYAN, K. A. et al., USSR Author's Certificate No 364781



USSR

UDC: 62-567.1

ABGARYAN, K. A., RAPOPORT, I. M., MAL'TSEV, O. P., SAMOYLOV, Ye. A.,
RYBAK, S. A., Moscow "Order of Lenin" Aviation Institute imeni Sergo Or-
dzhonikidze

"A Dynamic Vibration Damper"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazttsy, Tovarnyye Znaki,
No 5, Feb 72, Author's Certificate No 364781, Division F, filed 17 Mar 71,
published 28 Dec 72, pp 108-109

Translation: This Author's Certificate introduces a dynamic vibration
damper which contains an additional mass coupled to an elastic element.
As a distinguishing feature of the patent, provision is made for using the
damper in liquid-filled elastic tanks. The elastic element is made in the
form of a gas-filled elastic shell located inside the liquid, and the sur-
rounding liquid comprises the additional mass.

USSR

ABGARYAN, K. A., Izvestiya Akademii Nauk Armyanskoy SSR, Seriya Matematika, Vol 5, No 4, 1970, pp 317-326

splitting of such systems into independent subsystems of linear differential equations of the first order, the proposed method permits the direct transformation of system (1) to a split system of individual linear differential equations, each of which corresponds to a certain isolated group of eigenvalues of the matrix of the coefficients of the initial system.

2/2

USSR .

UDC 517.91

ABGARYAN, K. A., Moscow Aviation Institute imeni S. Ordzhonikidze

"A Formal Transformation of a System of Linear Differential Equations"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Seriya Matematika,
Vol 5, No 4, 1970, pp 317-326

Abstract: The article describes a method for the formal transformation of the system of differential equations

$$A(\tau, \epsilon) \frac{dx}{dt} = B(\tau, \epsilon) x, \quad (1)$$

where $\tau = \epsilon t$ (ϵ - is a parameter),

$$A(\tau, \epsilon) = \sum_k \epsilon^k A_k(\tau), \quad B(\tau, \epsilon) = \sum_k \epsilon^k B_k(\tau),$$

$$\det A_0(\tau) \neq 0 \quad (\tau \in [0, L]),$$

to a system consisting of unrelated linear differential equations of the first or ∞ higher order. In contrast to known methods for the

USSR

ABGARYAN, K. A., IAN Arm SSR, Ser. Mat., No 5, 1971, pp 368-378

on the segment $0 \leq \tau \leq 1$. In contrast to previous works on splitting of linear differential systems, in this paper the author solves the problem of splitting of system (1) into independent subsystems of first-order equations with the additional condition that the matrices of the coefficients of the subsystems have a canonical form. Bibliography of eleven titles.

2/2

USSR

UDC: 517.91

~~ABGARYAN, K. A.~~, Moscow Aviation Institute imeni S. Ordzhonikidze

"An Asymptotic Transformation of a Linear Differential System"

Yerevan, Izvestiya Akademii Nauk ArmSSR: Matematika, Vol 6, No 5, 1971, pp 368-378

Abstract: Transformations are considered which lead to splitting of the linear system

$$A(\tau, \epsilon) \frac{dx}{dt} - B(\tau, \epsilon) x = f(t, \tau, \epsilon) \quad (\tau = \epsilon t), \quad (1)$$

where x and f are column matrices of the $n \times 1$ type, and A and B are square matrices of order n which permit series expansions (convergent, or at least asymptotic) in powers of the parameter ϵ

$$A(\tau, \epsilon) = \sum_{k=0}^{\infty} \epsilon^k A_k(\tau), \quad B(\tau, \epsilon) = \sum_{k=0}^{\infty} \epsilon^k B_k(\tau) \quad (2)$$

Abstracts from 11th Congress of Human Genetics, 2-16 Sep 71, Paris
C-11

ABGARYAN, D.V.

Smiles

on the proximal part of the short arm. Other cases of presumed long arm dicentric Y's reported in the literature have shown male differentiation in spite of deletion of some short arm material.

117. The population aspects of chromosome diseases in man
BULANOV, A. G., DAVIDENKO, L. I., MIDVANI, V. G. and
ABGARYAN, D. V., Moscow, U.S.S.R.

The frequency of sex chromosome diseases in the population of Down syndrome in newborn children was studied in five towns of the U.S.S.R. with comparatively defined methods, which is evident in the literature and in the results of the study.

Sex chromosomal diseases in the population of Down syndrome in newborn children were studied in five towns of the U.S.S.R. with comparatively defined methods, which is evident in the literature and in the results of the study.

Of 11,453 babies and children of Down syndrome in newborn children were studied in five towns of the U.S.S.R. with comparatively defined methods, which is evident in the literature and in the results of the study.

118. A genetic study of infantile and juvenile myotonia gravis
BENNETT, V. N., London, United Kingdom
Read by title

119. Siamese twins, genetics data through 6 and 3 generations respectively
CULLUM, G. B. and HAYNARD, D. H., London, U.S.A.

New genetic data on Siamese twins (Tians) from 6 and 3 generations respectively. The twins (Chang and Bua) were born in 1874 and 1875 respectively. They were born in the same family, but their parents were different. The twins were born in the same family, but their parents were different. The twins were born in the same family, but their parents were different.

120. Natural selection on the Diego blood group polymorphism in Mexican Indians of the Lake Atitlan region in Guatemala during migration
CANN, J. M., VAN MONT, B. and HARNETT, C. R., State of Calif., U.S.A.

As for other American Indian groups, the Diego blood group polymorphism is polymorphic in a population of Mexican Indian descendants living around Lake Atitlan in Guatemala.

501 DES UNNUMBERED DEC, 10 March 72
(4140)

USSR

ABEZGAUZ, M. I., et al., Priory i Sistemy Upravleniya, No 7, July 1971,
pp 10-12

interrelated events of the sphere of the individual administrative worker and the number of elementary controlled events reflected by the specific set of documents. The workers are periodically supplied with the standard document forms, including a specification-key with a complete set and structure of code diagrams and other information. The advantages of this method include the possibility of organizing information required by the particular worker and control of information resources, establishing prerequisites for the formulation of a single conceptual model, accelerating the process of rapidly selecting the necessary data from a set of documents, and the possibility of a formal description and quantitative evaluation of the perception of data by the personnel.

2/2

USSR

UDC 681.3.007

ABEZGAUZ, M. I., GOLANT, Yu. A., TERESHKO, E. P., Engineers, and GRINBERG, A. S., Candidate of Technical Sciences

"Method of Representing Information in Automated Control Systems of Discrete Production"

Moscow, Pribery i Sistemy Upravleniya, No 7, July 1971, pp 10-12

Abstract: The article examines the organization of the structure of document arrays in automated control systems which is based on a single concept of the production situation -- a conceptual model. The suggested version for representing information is based on the following principles: utilization of a specific model of object operation, application of the "information resources" concept along with the "material resources" concept, interpretation of the process of operational selection of the controlling actions, selection of groups of interacting events, examination of data utilization by the personnel, selection of the staff, compilation of a set of algorithms, placement of code diagrams in documents and standardization of operational documents for all administrative workers with an individual composition of code diagrams. The composition of the code diagrams depends on the set of
1/2

USSR

UDC 577.1:615.7/9

ABESADZE, A. I. and SHENGELAYA, A. L.

"Mechanisms of the Hepatotropic Effect of Carbon Tetrachloride"

V sb. Materialy III Zakavkaz. nauch. konf. patofiziologov, 1972 (Proceedings of the 3rd Transcaucasian Scientific Conference of Pathophysiologists, 1972), Tbilisi, 1972, pp 25-27 (from RZh-Biologicheskaya Khimiya, No 4, Feb 73, Abstract No 4 F1884 by D. N. Glukharev)

Abstract: Acute toxic hepatitis was induced in dogs by 5 injections of CCl_4 (at 48-hour intervals) at a dose of 0.2 ml/kg (in persic oil, 1:1). The activities of cytoplasmatic (aldolase, aspartate and alanine aminotransferases, alkaline phosphatase) and mitochondrial (histidase, urokinase) enzymes, some parameters of lipid metabolism (total and esterified cholesterol, free fatty acids, β -lipoproteins), and liver excretory function (sulfobromophthalein test) were determined. Fifteen minutes and 1 hour after the first injection of CCl_4 there was a significant increase in urokinase and histidase activities, respectively, along with a decrease in liver excretion. The subsequent injections of CCl_4 resulted, in addition to these changes, impairment of other metabolic elements. After the 5th injection histidase and urokinase activities in the liver decreased and acute liver degeneration developed. It was concluded that CCl_4 has a direct effect on hepatocyte function.

1/1

USSR

UDC 621.643.411.4.001.5

SHOSTAK, I. A. and GAPCHENKO, M. N., Kiev Polytechnical Institute;
SLUCHANKO, N. A. and ABERKOV, A. S., Soyuzmontazhgaz [expansion unknown] Trust

"Welding Repeated Butt Joints in Thick-Wall Pipe With a Strip Electrode"

Moscow, Stroitel'stvo Truboprovodov, No 4, Apr 73, pp 21-23

Abstract: Experiments were conducted at the industrial base of the Soyuzmontazhgaz Trust on making butt welds of thick-wall pipe using a strip electrode. Annular welds were made on pipe measuring 426 x 30 mm and 1020 x 17 mm. Cold-rolled strip made from killed steel 08kp measuring 0.8 mm thick and 15 mm wide. Fluxes AN-348A and KVS-19 were used. The weld seams were subjected to mechanical testing after welding with the results compared with mechanical tests of seams of steel 15G2S, welded under ceramic fluxes. Weld seams made using flux KVS-19 had better tensile, yield and impact (+20 C) strengths than those welded using flux AN-348A while impact strengths at -40 C were equal. However, the mechanical properties of seams welded from steel 08kp under either flux were better than weld seams of steel 15G2S pipe.

1/1

USSR

ZHUMATOV, Kh., et al, Zaravookhraneniye Kazakhstana, No 2, Feb 71, pp 50-52

a modern medical network can be set up to deal efficiently with future outbreaks of Hong Kong flu in Kazakhstan.

Epidemiology

USSR

ZHUMATOV, Kh., Zh., MIKHAYLOV, G. G., and ABENOVA, U. A., Kazakh Institute of Epidemiology and Microbiology

"Virological Study of Hong Kong Flu in Kazakhstan"

Alma-Ata, Zaravookhraneniye Kazakhstana, No 2, Feb 71, pp 50-52

Abstract: A program for monitoring acute respiratory diseases during the course of the year exists in Kazakhstan. It was found that the incidence of all respiratory diseases is higher among children during as well as between flu epidemics. In January 1968, there was a peak in respiratory disease among children, caused by the spread of parainfluenza virus and adenoviruses. There was another peak in March/April. This time, A₂ virus was isolated. Thus, two outbreaks of respiratory disease within 3-4 months were observed and they were caused by different respiratory viruses. A more serious outbreak of Hong-Kong flu occurred at the end of 1968 and the beginning of 1969. An even more severe epidemic was recorded in January 1970. Hemagglutination inhibition data were recorded for the 1968-1970 period and the elution activity of strains of A₂ flu virus was recorded. Four groups of A₂ virus strains were found. It is recommended that local public health stations in various regions should cooperate in analysis and study of A₂ virus strains, so that

1/2

2/2 037

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--ATO112115

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IF A PHOTOELASTIC MODEL IS PLACED IN A MAGNETIC FIELD THE LIGHT ELLIPSE WILL ROTATE DUE TO THE FARADAY EFFECT. AN INTEGRAL OPTICAL EFFECT CAN THEREFORE BE OBSERVED WITH STATES OF STRESS WHICH DO NOT SHOW ANY OPTICAL EFFECT BY DIRECT OBSERVATION, E.G. BENDING AND QUENCHING STRESSES IN PLATES. BASIC EQUATIONS OF MAGNETO PHOTOELASTICITY ARE DERIVED. AN ALGORITHM IS DEVELOPED WHICH ENABLES THE OPTICAL PHENOMENA TO BE DETERMINED IN CASES OF ARBITRARY STRESS DISTRIBUTION ALONG THE WAVE NORMAL. AN INVESTIGATION OF BENT PLATES IS CONSIDERED; A NOMOGRAM IS PRODUCED WHICH ENABLES THE STRESS COMPONENTS TO BE DETERMINED ON THE BASIS OF EXPERIMENTAL DATA. THE EXPERIMENTAL TECHNIQUE IS DESCRIBED. FACILITY: AKADEMIIA NAUK ESTONSKOI SSR, INSTITUT KIBERNETIKI, TALLIN, ESTONIAN SSR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PRINCIPLES OF MAGNETO PHOTOELASTICITY -U-
AUTHOR--ABEN, S.H.K. *A*
COUNTRY OF INFO--USSR, UNITED KINGDOM
SOURCE--IN: EXPERIMENTAL STRESS ANALYSIS AND ITS INFLUENCE ON DESIGN;
INSTITUTION OF MECHANICAL ENGINEERS, CONFERENCE, CAMBRIDGE, ENGLAND,
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOELASTICITY, MAGNETIC FIELD EFFECT, FARADAY EFFECT, STRESS
ANALYSIS, BENDING STRESS, THERMAL STRESS, ALGORITHM, FLAT PLATE,
NOMOGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/0953 STEP NO--UK/0000/70/000/000/0108/0115

CIRC ACCESSION NO--AT0112115
UNCLASSIFIED

ILLEGIBLE

USSR

Jan 71

An article states that a group of scientists
ABELEV, G., Doctor of Biological Sciences,
TATARINOV, YU., Doctor of Medical Sciences,
PEREVODCHIKOVA, N., Doctor of Medical Sciences,
worked out a new method of diagnosis of liver cancer.

Ekonomicheskaya Gazeta, No 4, Jan 71, p 15

(3)

USSR

Rpt 9 Oct 70

ABELEV, G. I., Doctor, Biological Sciences,
TATARINOV, Yu. S., and
PEREVODCHIKOVA, N. I., Doctors, Medical Sciences, are mentioned
in an article concerning their discovery of existence of a
special protein in human blood which indicates malignant
liver disease and which has been designated a major scientific
discovery by the Committee on Inventions and Discoveries.
Council of Min, USSR.

Kommunist Kazakhistana, 9 Oct 70, p 4, col 4

(3)

USSR

6 Oct 70

An item states that in 1962 the following:
ABELEV, G. I., Professor, Doctor of Biological Sciences,
PEROVA, S. D., Candidate of Biological Sciences,
KUPRINA, (Khrankova) N. I., Candidate of Biological Sciences, all
associates of the Institute imeni N. F. Gamaleya, Academy of Medical
Sciences USSR, discovered in the blood of animals inoculated with
liver cancer a specific protein, the so-called alpha-fetoprotein.

Vechernyaya Moskva, 6 Oct 70, p 2, col 6

(3)

USSR

6 Oct 70

ABELEV, G. I., Professor, comments in an interview on the subject of alpha-tetoprotein synthesis and transfer into blood by tumors.

Vechernyaya Moskva, 6 Oct 70, p 2, col 7

(1)

USSR

Rpt 3 Aug 69

ABELEV, G., Dr of Biological Sciences, Prof Institute of Epidemiology and Microbiology im. N. F. Gamaleya of the AMS USSR, is author of an article on cancer research.

Sotsialisticheskaya Industriya, 3 Aug 69, p 3, cols 1 and 2 (1)

TSVETKOV, V.S.; AVENIROVA, Z.A.; LYUDOGOVSKAYA, L.A.

Antigenic structure of tumors in man. Report no.4: Fractioning of extracts from cancer of the human stomach by the method of preparative electrophoresis. Vop. onk. 10 no.10:64-67 '64.

(MIRA 18:8)

cellular antigens
1. Iz laboratorii kletochnykh antigenov (zav. - G.I.Abelev) otdela immunologii i onkologii (zav. - prof. L.A.Zil'ber) Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei (direktor - prof. P.A.Vershilova). Adresy avtorov: Leningrad, Institut onkologii AMN SSSR (for Avenirova); Malaya Shchukinskaya 13, Institut epidemiologii i mikrobiologii im. N.F.Gamalei, Otdel immunologii i onkologii (for Tsvetkov, Lyudogovskaya).

Rpt 25 Jul 71

USSR

The article "On Behalf of Life" is based on an interview by TASS Correspondent Z. Khromova with BLOKHIN, N. N., Academician, Academy of Medical Sciences USSR; Professor; Director, Institute of Experimental and Clinical Oncology, on the latest research of medical scientists in the field of oncology. By way of introduction it is noted that at a recent session of the AMS USSR in Moscow there was comprehensive consideration of problems associated with the prophylactics and treatment of cardiovascular, oncological, virus and hereditary diseases, and the development of physiologically active medicines. There is special urgency in research in the field of theoretical and experimental oncology, directed toward the discovery of new capabilities of preventing the development of tumors. There is great interest in the research and efforts of scientists directed toward clarification of the role of viruses in the formation of tumors and research on cancer immunology. Epidemiological research is extremely valuable in expanding data on the effect of environment, nutrition, etc., on the development of different types of tumors. In recent years valuable laboratory methods have been developed which are of significance for specific types. Methods of ABELEV, G. I., for diagnosing cancer of the liver and of NEYFAKH, S. M., for diagnosing stomach cancer have clinical value. New medicines, improvement of methods of their use, creation of comprehensive methods of chemotherapy, and development of combined methods of treatment, including surgical, radiation, and medicinal, are priority problems at present. The creation in Moscow in the system of AMS USSR of the new oncological center now being built will be a real contribution. (3)

Moskovskaya Pravda, 25 Jul 71, p 2, cols 1-3

USSR

ABELEV, G., Kazakhstanskaya Pravda, 28 Oct 70, p 4

of the liver. A dramatic account is included of the successful testing of the method in Nigeria, Uganda, Singapore, Jamaica, and other countries where the incidence of liver cancer is fairly high.

2/2

Oncology

USSR

ABELEV, G., Professor

"Early Diagnosis of Liver Cancer"

Alma-Ata, Kazakhstanskaya Pravda, 28 Oct 70, p 4

Abstract: Some 10 years ago the Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, discovered a protein (alpha-globulin) in the liver cells of sick mice that was absent in the blood and organs of healthy adult mice. It was also isolated from the liver and blood of developing mouse embryos and from newborn mice. Embryonic liver forms the so-called embryonic alpha-globulin, together with other proteins, and releases them into the blood. Only the cells of embryos and newborn animals have the ability to synthesize this alpha-globulin; adult animals have lost this ability. When liver cells undergo malignant degeneration, they apparently return to the initial stages of their development and again begin to synthesize embryonic alpha-globulin. Several years ago the Astrakhan biochemist Yuri Tatarinov found the substance in the blood of liver cancer patients and used it as a means of early diagnosis of the disease. The specificity of the method is demonstrated by the fact that it permits liver cancer to be clearly differentiated not only from tumors of other origin but also from other nonmalignant diseases

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USSR

ABELEV, G., Nauka i Zhizn', No 1, 1971, p 45

blood is a fairly reliable evidence of liver cancer. Since this disease is especially frequent among people living in Ivory Coast, a large-scale cancer research project is now in progress in that country. Blood tests have been done on about 10,000 persons. Those in whom alpha-fetoprotein has been found are now undergoing thorough clinical examinations for the diagnosis of liver cancer.

USSR

ABELEV, G., Doctor of Biological Sciences, Professor

"One More Step Closer Toward Elucidating the Mystery of Cancer"

Moscow, Nauka i Zhizn', No 1, 1971, p 45

Abstract: One important objective in cancer research is to find specific properties of cancerous tissue by which it differs from healthy tissue. This may facilitate selecting appropriate drugs. Soviet scientist Zil'berg found that cancer cells contain specific antigens which indicate the presence of viruses. Subsequent investigations done by other researchers on mice with liver cancer revealed that cancerous liver cells contain a specific protein which is not present in normal liver cells. This specific protein is synthesized by cancerous liver cells and is then poured into the blood. Still later, this protein was identified as the alpha-fetoprotein normally produced by embryonic liver cells. Biochemist Tatarinov detected this alpha-fetoprotein in the blood of patients with liver cancer. It is now believed that the presence of the alpha-fetoprotein in human

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ABSTRACT/EXTRACT--WE DEMONSTRATED SUCH A POSSIBILITY IN STUDIES PURSUED IN A DIFFERENT DIRECTION FOR DEMONSTRATION OF SPECIFIC TUMORS ANTIGENS. AT PRESENT, INVESTIGATIONS HAVE BEEN INITIATED INVOLVING THE USE OF A HIGHLY SENSITIVE TEST ON PATIENT GROUPS WITH THE HIGHEST PROBABILITY OF PRIMARY HEPATIC CARCINOMA. TO CONCLUDE OUR BRIEF SURVEY ON DEVELOPMENT OF THIS PROBLEM, WE SHOULD LIKE TO STRESS THAT EMBRYO SPECIFIC ANTIGENS ARE A UNIQUE MODEL FOR INVESTIGATION OF THE MECHANISMS INVOLVED IN REGULATION OF PROTEIN SYNTHESIS IN ONTOGENY AND IN THE CASE OF AMLIGNANT TRANSFORMATION OF TISSUE. THE PRACTICAL USE OF EMBRYONIC ALPAH GLOBULIN RESULTED IN A HIGHLY SPECIFIC METHOD FOR IMMUNOLOGICAL DIAGNOSIS OF HEPATIC CARCINOMA AND SOME TERATOBLASTOMAS. THE USE OF SUCH AN APPROACH FOR THE DETECTION OF OTHER FORMS OF CANCER IS A PROMISING RESEARCH DIRECTION. FACILITY: INSTITUTE OF EPIDEMIOLOGY AND MICROBIOLOGY IMENI N. F. GAMALEYA, USSR ACADEMY OF MEDICAL SCIENCES, MOSCOW.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHENOMENON OF PRODUCTION BY LIVER TUMORS OF EMBRYO SPECIFIC SERUM ALPHA GLOBULIN WAS FIRST DISCOVERED IN 1962. PARTICULAR INTEREST IN THIS PHENOMENON DEVELOPED AFTER IT WAS SHOWN THAT THIS GLOBULIN CAN BE USED FOR DIFFERENTIAL DIAGNOSIS OF LIVER TUMORS, AND LATER ON OF EMBRYONIC TUMORS OF THE TESTICLE AND OVARY AS WELL. THE FACTS ACCUMULATED IN THIS AREA WERE GATHERED AND ANALYZED BY US IN 1967 (G. I. ABELEV, 1968). IN THE PRESENT ARTICLE WE MERELY OUTLINE THE ESTABLISHED DATA AND EAL IN GREATER DETAIL WITH NEW FACTS OBTAINED SINCE 1967; WE HAVE ALSO MADE AN ATTEMPT TO FORMULATE THE MAIN PROBLEMS IN THIS AREA AND TO OUTLINE THE MANS OF FINDING THEIR EXPERIMENTAL SOLUTION. MAIN STAGES IN DEVELOPMENT OF THE PROBLEM. THE PRESENCE OF EMBRYO SPECIFIC PROTEINS AND IN PARTICULAR OF ALPHA GLOBULINS IN THE SERUM OF THE FETUS AND NEONATE ANIMALS WAS FIRST SHOWN BY PEDERSON (1944). THE FETUIN HE DEMONSTRATED AND DESCRIBED WAS A CLASSICAL EXAMPLE IN THIS FIELD. MANY YEARS LATER, IN 1957, FETAL GLOBULIN WAS FOUND IN THE SERUM OF THE HUMAN FETUS (BERGSTRAND ET AL., 1957). AT PRESENT ALPHA FETOPROTEIN HAS BEEN FOUND IN 12 DIFFERENT SPECIES OF MAMMALS INVESTIGATED IN THIS RESPECT (GITLIN AND BOESMAN, 1967). ON THE OTHER HAND, IT WAS KNOWN (IN GENERAL FORM) EVEN EARLIER THAT MALIGNANT NEOPLASMS ARE SIMILAR TO EMBRYONIC TISSUES (YU. DEY, 1966) NOT ONLY MORPHOLOGICALLY BUT ALSO ACCORDING TO THEIR ANTIGENIC PROPERTIES. HOWEVER THE QUESTION OF POSSIBLE RENEWAL OF SYNTHESIS OF EMBRYO SPECIFIC SERUM PROTEINS IN TUMORS WAS NOT EVEN RAISED.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INSECTICIDAL EFFECTIVENESS OF AQ. SOLNS. OF 0.05PERCENT ANTHIO (I), 0.1PERCENT SEVIN (II), 0.1PERCENT FITIOS (III), AND 0.2PERCENT PHOSALONE (IV) MIXED WITH 0.1PERCENT BORDEAUX MIXT. DECREASES TO 7, 0.2, 13, AND 80PERCENT, RESP.; FOR 0.25PERCENT ZINEB TO 80 AND 67PERCENT WITH I AND II, RESP., AND DOES NOT DECREASE WITH III AND IV; FOR 0.25PERCENT CU OXYCHLORIDE TO 78, 50, AND 93PERCENT WITH I, II, AND III, RESP., AND IS NOT ALTERED WITH IV. MIXING I-IV WITH 0.25PERCENT POLYCARBAZINE DOES NOT CAUSE ANY DECREASING OF EFFECTIVENESS. FACILITY: VSES. NAUCH.-ISSLED. INST. KHIM. SREDSTV ZASHCH. RAST., MOSCOW, USSR.

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